

CLAIMS:

1. A module (1) with a chip (3) with chip connection contacts (4, 5, 6, 7), said module (1) having a mid-point (8), and said module (1) being envisaged for use in a data carrier (11) designed for contactless communication, that data carrier (11) containing the module (1) with the chip (3) with chip connection contacts (4, 5, 6, 7) and additionally at least one further electrical component (12, 13) – connected in an electrically conductive manner with the chip (3) – with component connection contacts (14, 15, 16, 17), wherein the electrically conductive connection between the chip (3) and the at least one further component (12, 13) can be realized in accordance with two opposed polarities, and wherein the module (1) has a chip (3) with at least two pairs (20, 21) of chip connection contacts (4, 5, 6, 7), and wherein the module (1) has at least two pairs (22, 23; 22, 23, 56) of module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51), wherein the two module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) of each pair (22, 23; 22, 23, 56) are provided for the electrically conductive connection with the component connection contacts (4, 5, 6, 7) of in each case one of at least two further components (12, 13), and wherein each module connecting plate (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) has a plate surface with a particular shape and is designed to be electrically conductive and is connected in an electrically conductive manner with a chip connection contact (4, 5, 6, 7), and wherein the shapes of the plate surfaces of the two module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) of each pair (22, 23; 22, 23, 56) are identical, and wherein the shapes of the plate surfaces of the module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) of different pairs (22, 23; 22, 23, 56) are different, and wherein in a starting position of the module connecting plates, the shapes of the plate surfaces of the module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) result in a particular plate pattern and differ such that when, starting from the starting position, all the module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) are jointly rotated around an axis that runs perpendicular in relation to the plate surfaces and that passes through the mid-point (8), the same plate pattern always results after joint rotation around 180° in each case.

2. A module (1) as claimed in claim 1, wherein the module (1) has a main axis (9) running through the mid-point (8), and wherein of each pair (22, 23; 22, 23, 56) of module connecting plates, one module connecting plate (24, 26; 24, 26, 50) points in a first direction (34) that runs parallel to the main axis (9) and points away from the mid-point (8),
5 and the other module connecting plate (25, 27; 25, 27, 51) points in a second direction (35) that runs parallel to the main axis (9) and runs opposite to the first direction (34) and points away from the mid-point (8), and wherein the module connecting plates (24, 26; 50, 24, 26) that point in the first direction (34) lie next to one another and are separated from one another by a separation zone (36; 48, 36) in each case, and wherein the module connecting plates (25,
10 27; 25, 27, 51) that point in the second direction (35) lie next to one another and are separated from one another by a separation zone (37; 49, 37) in each case, and wherein the shapes of the plate surfaces of two module connecting plates (24, 26, 27, 25; 50, 24, 26, 27, 25, 51) lying next to one another are different.
- 15 3. A module (1) as claimed in claim 2, wherein the shapes of the plate surfaces of two module connecting plates (24, 26, 27, 25; 50, 24, 26, 27, 25, 51) lying next to one another are different as a consequence of the characteristics of the separation zone (36, 37; 48, 36, 37, 49) that separates these two module connecting plates.
- 20 4. A module (1) as claimed in claim 3, wherein at least one separation zone (36, 37; 48, 49) lying between two module connecting plates (24, 26, 27, 25; 50, 26, 25, 51) that lie next to one another runs obliquely to the main direction.
5. A module (1) as claimed in claim 4, wherein the separation zone (36, 37; 48,
25 49) runs in a straight line.
6. A module (1) as claimed in claim 1, wherein the module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) have been produced with the aid of a conductor frame configuration (2).
- 30 7. A data carrier (11) that is designed for contactless communication and contains a module (1) with a chip (3) with chip connection contacts (4, 5, 6, 7) and additionally at least one further electrical component (12, 13) – connected in an electrically conductive manner with the chip (3) – with component connection contacts (14, 15, 16, 17),

and wherein the module (1) is designed as claimed in any one of the claims 1 to 7, and wherein the module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) of each pair (22, 23; 22, 23, 56) of module connecting plates is connected with the component connection contacts (14, 15, 16, 17) of in each case one of at least two further components (12, 13).

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8. A lead frame configuration (2) which is provided for the production of a module (1) as claimed in any one of the claims 1 to 7 and which has a mid-point (8), wherein the lead frame configuration (2) has at least two pairs (22, 23; 22, 23, 56) of module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51),

10 wherein the two module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) of each pair (22, 23; 22, 23, 56) are intended for the electrically conductive connection with the component connection contacts (4, 5, 6, 7) of in each case one of at least two further components (12, 13), and wherein each module connecting plate (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) has a plate surface with a particular shape and is designed to be electrically
15 conductive and is connected in an electrically conductive manner to a chip connection contact (4, 5, 6, 7), and wherein the shapes of the plate surfaces of the two module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) of each pair (22, 23; 22, 23, 56) are identical, and wherein the shapes of the plate surfaces of the module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) of different pairs (22, 23; 22, 23, 56) are different, and
20 wherein in a starting position of the module connecting plates, the shapes of the plate surfaces of the module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) yield a particular plate pattern and differ such that, starting from the starting position, when all the module connecting plates (24, 25, 26, 27; 24, 25, 26, 27, 50, 51) are jointly turned around an axis that runs perpendicular in relation to the plate surfaces and passes through the mid-point
25 (8), the same plate pattern always results after joint turning around 180° in each case.

9. A lead frame configuration (2) as claimed in claim 8, wherein the lead frame configuration (2) has a main axis (9) that passes through the mid-point (8), and wherein of each pair (22, 23; 22, 23, 56) of module connecting plates, one module connecting plate (24, 26; 24, 26, 50) points in a first direction (34) that runs parallel to the main axis (9) and points
30 away from the mid-point (8), and the other module connecting plate (25, 27; 25, 27, 51) points in a second direction (35) that runs parallel to the main axis (9) and runs opposite to the first direction (34) and points away from the mid-point (8), and wherein the module connecting plates (24, 26; 50, 24, 26) that point in the first direction (34)

lie next to one another and are separated from one another by a separation zone (36; 48, 36) in each case, and wherein the module connecting plates (25, 27; 25, 27, 51) that point in the second direction (35) lie next to one another and are each separated from one another by a separation zone (37; 49, 37) in each case, and wherein the shapes of the plate surfaces of two
5 module connecting plates (24, 26, 27, 25; 50, 24, 26, 27, 25, 51) that lie next to one another are different.

10. A lead frame configuration (2) as claimed in claim 9, wherein the shapes of the plate surfaces of two module connecting plates (24, 26, 27, 25; 50, 24, 26, 27, 25, 51) that
10 lie next to one another are different as a consequence of the characteristics of the separation zone (36, 37; 48, 36, 37, 49) that separates these two module connecting plates.

11. A lead frame configuration (2) as claimed in claim 10, wherein at least one separation zone (36, 37; 48, 49) lying between two module connecting plates (24, 26, 27, 25;
15 50, 26, 25, 51) that lie next to one another runs obliquely to the main direction.

12. A conductor frame configuration (2) as claimed in claim 11, wherein the separation zone (36, 37; 48, 49) runs in a straight line.